

REMARKS

The Office Action dated September 19, 2008 has been received and its contents carefully noted. Enclosed herewith is a one-month extension of time with requisite fee. From the Summary page, claims 1-20 were pending. Claims 6-13 have subsequently been withdrawn from consideration as being drawn to a non-elected invention. Claims 1-5 and 14-20 were rejected. Acknowledgment has been made of Applicants' Claim for Priority. Further, the Information Disclosure Statements filed June 9, 2006, September 19, 2006 and November 13, 2006 all have been considered.

By this response, Applicants have amended independent claim 1 and dependent claims 2-5 and 14-20. In this Amendment Applicants have further added new claims 21 to 28 (with claims 22 and 27 representing independent claims). No statutory new matter has been added (e.g., see for example the disclosure on page 2 regarding tin and/or aluminum relative to the titanium alloy, etc). Further independent claim 27 reads the same as former independent claim 1 and its order amongst the claims has been revised for reasons made clearer below.

Claim Objections

The Examiner has indicated that claims 2-5 and 14-20 do not "require" the features to be present in view of the words "can be" and "may". In response, Applicants have amended the claims in view of the Examiner's suggestions.

Claim Rejections - 35 U.S.C. §§ 102(b) and (e)

Claims 1-5 and 14-20 were rejected as being anticipated under 35 U.S.C. § 102(b) by any of Ahmed et al. (US 5, 871,595), Saito et al. (US 6,607,693) or Furuta et al. (US 2003/0102062) as well as under 35 U.S.C. § 102(e) by Hwang (US 2005/0072496).

Applicants advance that none of Ahmad, Saito, Furuta or Hwang teach or suggest all of the claimed features of independent claim 1, and claims 2-5 and 14-20, dependent thereon. As such, Applicants' present invention patentably distinguishes thereover. That is, Applicants respectfully submit that the specific examples and citations of the cited prior art provided in the Office Action do not teach or suggest the compositional requirements of claim 1.

Claim 1 as presented herein relates to a Ti-Nb-Zr ternary titanium alloy, a Ti-Nb-Zr-Sn or Ti-Nb-Zr-Al quaternary titanium alloy, or a Ti-Nb-Zr-Sn-Al quinary titanium alloy as well as a titanium alloy of “ $30 \text{ wt \%} > \text{niobium} \geq 20 \text{ wt \%}$ ”.

Applicants respectfully submit a review of each of the four relied upon references to Ahmed, Saito, Furuta and Hwang fail to either disclose one of a Ti-Nb-Zr ternary titanium alloy, a Ti-Nb-Zr-Sn or Ti-Nb-Zr-Al quaternary titanium alloy, and a Ti-Nb-Zr-Sn-Al quinary titanium alloy or a titanium alloy of “ $30 \text{ wt \%} > \text{niobium} \geq 20 \text{ wt \%}$ ” or both.

For example, with reference to the relied upon Table 2 of Ahmed, there can be seen that the inclusion of a significant percentage of Ta in each example precludes that reference from reading upon the present claim 1 invention.

Also a review of the relied upon Table 1 of Hwang reveals alloys that fail either to meet the ternary, quaternary and quinary features described above or, with reference, for instance, to example 17 and comparative example 4, in that table, have percentages outside the claimed “ $30 \text{ wt \%} > \text{niobium} \geq 20 \text{ wt \%}$ ”.

Moreover, the referenced paragraph [135] of Furuta suffers from a similar deficiency as described above for Ahmed, while the Tables 1 to 3 of Saito suffer from the same deficiency as described above for Hwang.

Accordingly, it is respectfully submitted that none of the four references disclose or suggest the features of independent claim 1 and, by incorporation therein, the dependent claims. Hence withdrawal of the prior art rejection raised against claims 1 and its dependents is respectfully requested. Also, rejoinder of the withdrawn claims based on their dependency on claim 1 is respectfully requested.

In the present amendment, there is further presented independent claim 22 which describes a titanium alloy with the use of the term “consisting essentially of” both relative to a ternary Ti/Nb/Zr alloy and a Ti/Nb/Zr/(Sn and/or Al) alloy, respectively, as well as $30 \text{ wt \%} > \text{niobium} \geq 20 \text{ wt \%}$. For similar reasons as presented above relative to claim 1, independent claim 22 are also respectfully submitted to be in condition for allowance.

Also, new independent claim 27 represents claim 1 as originally presented but with only one dependent claim (claim 28). In the context of the present amendment, claim 27 refers to a titanium alloy with $30 \text{ wt \%} > \text{niobium} \geq 20 \text{ wt \%}$, 2~15 wt % zirconium, and, except for

U.S. Patent Application Serial No. 10/582,233
Attorney Docket No. 033792R005

unavoidable impurities, the balance titanium. Hence, for similar reasons described above relative to claim 1, the prior art fails to disclose or suggest a titanium alloy represented by the noted ranges of Nb and Zr with the essential balance of alloy constitution made up of Ti.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Therefore, it is respectfully requested that the Examiner reconsider all presently outstanding rejections or objections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

If any fees are due in connection with the filing of this Amendment, such as fees under 37 C.F.R. §§1.16 or 1.17, please charge the fees to Deposit Account 02-4300; Order No. 033792R005.

Respectfully submitted,
SMITH, GAMBRELL & RUSSELL, LLP


Dennis C. Rodgers, Reg. No. 32,936
1130 Connecticut Avenue, N.W., Suite 1130
Washington DC 20036
Telephone: 202-263-4300
Facsimile: 202-263-4329

Dated: January 15, 2009